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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,822	12/08/2003	Hiroshi Ohsawa	P24225	9272
7055	7590	09/14/2004	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C.			CHANG, CHING	
1950 ROLAND CLARKE PLACE			ART UNIT	PAPER NUMBER
RESTON, VA 20191			3748	

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,822

Applicant(s)

OHSAWA, HIROSHI

Examiner

Ching Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4, 6 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 5 and 7 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/08/2004.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 10 is objected to because of the following informalities:
 - " side wall " in claim 10 appears to be -- sidewall --.Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. ***Claims 4, 6, 8, and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama et al (US Patent 5,636,613) in view of Asakura (US Patent 6,742,483).***

Aoyama discloses a variable operating valve apparatus for an internal combustion engine, comprising: a camshaft (68), axially supported by an engine cylinder head (24); and a fuel injector (87, or any type) attached at an intake sidewall (part of 24 and 31), said fuel injector configured to spray fuel into an intake port (through

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48 and 91), wherein said intake sidewall comprises a concavity (89) adjacent said fuel injector, said concavity permitting said fuel injector to be installed at said intake sidewall; and a connector and a fuel rail (88), each being associated with said fuel injector, and each being attached to a rearward end of a casing of said fuel injector (See Figs. 1, 3, and 11); wherein said concavity is formed opposite a connector associated with said fuel injector (See Figs. 1, 3, and 11); wherein said connector and said fuel rail are unimpeded by said intake sidewall.

Aoyama discloses the invention as recited above, however, fails to disclose the said camshaft comprising a three-dimensional cam having a profile that varies along a length of said cam, a rocker shaft having an axial position that changes in response to engine operating conditions, and a valve lift volume setting mechanism configured to alter the lift of a valve in response to an amount of axial movement of said rocker shaft;

The patent to Asakura on the other hand, teaches that it is conventional in the art of an variable engine valve mechanism, to have utilized a camshaft (Fig. 16) having a three-dimensional cam (245a), a rocker shaft (132) having an axial position that changes in response to engine operating conditions, and a valve lift volume setting mechanism (120) configured to alter the lift of a valve in response to an amount of axial movement of said rocker shaft, wherein said camshaft further comprising a maximum lift profile portion that is oriented toward a sprocket (252) end side of said camshaft.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the camshaft with a three-dimensional cam and the

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valve lift volume mechanism with rocker shaft as taught by Asakura in the Aoyama device, since the use thereof would provide an improved variable engine valve device.

Allowable Subject Matter

4. Claims 1-3 are allowed.
5. Claims 5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Katayama (US Patent 6,708,659).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (703)306-3478. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

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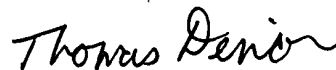
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (703)308-2623. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Ching Chang



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700